

### **REMARKS**

The Office Action dated April 8, 2005 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 13 and 21-25 are amended to specifically point out and distinctly claim the subject matter of the present invention. No new matter added. Applicants gratefully acknowledge the indication that claims 16-20 and 26-35 are allowed. Applicants also acknowledge the indication that claim 6 and 12 recite allowable subject matter but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. It is respectfully submitted that claims 6 and 12 are allowable in their present form for the reasons discussed below. Claims 1-15 and 21-25 are respectfully submitted for consideration.

The Office Action objected to claim 14 because of informalities. Specifically, the Office Action states that claim 14 lacks dependency. Applicants respectfully submit that the amendment to claim 14 obviates this objection. Accordingly, withdrawal of the rejection to claim 14 is respectfully requested.

The Office Action rejected claims 21-25 under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

Applicants respectfully submit that claims 21-25 are directed to statutory subject matter. Specifically, claims 21-25 are amended to be directed to the subject matter of a

computer program embodied on computer-readable medium. Support for the amendments is found at least on paragraph 30 of the specification.

It is respectfully submitted that claim 21-25 are directed to statutory subject matter. Accordingly, withdrawal of the rejection under 35 U.S.C. §101 of claims 21-25 is respectfully requested.

The Office Action rejected claims 1-5, 7-11 and 13-14 under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,356,951 to Gentry Jr. (Gentry), in view of U.S. Patent No. 5,958,044 to Brown et al. (Brown). This rejection is respectfully traversed.

The Office Action takes the position that Gentry discloses all of the features recited in the above claims with the exception of processing the priority of instruction fields in parallel. The Office Action further alleges that Brown makes up for this deficiency. It is respectfully submitted that the cited combination fails to disclose or suggest all of the features recited in any of the pending claims.

Claim 1, upon which claims 2-6 depend, recites a method for a programmable micro-controller. The method comprises loading an instruction word within the micro-controller, the instruction word having a plurality of instruction fields. The method further includes processing the plurality of instruction fields in parallel, each instruction field related to a specific operation for parsing a packet or encapsulating data to form a packet.

Claim 7, upon which claims 8-15 depend, recites a programmable micro-controller. The programmable micro-controller comprises an embedded memory to store

one or more instruction words, each instruction word including a plurality of instruction fields. The programmable micro-controller further includes one or more processing engines, each processing engine to process the plurality of instruction fields in parallel for each instruction word, each instruction field related to the specific operation for parsing a packet or encapsulating data to form a packet.

The method of the present invention provides low processing latency for parsing a packet or encapsulating data to form a packet. In particular, by loading instructions within the micro-controller, the micro-controller avoids accessing external memory to load instructions, thereby reducing processing latency. The programmable micro controller of the present invention uses a micro-instruction set specific for parsing and encapsulating. By using a micro-instruction set specific for parsing and encapsulating, the programmable micro-controller can perform fast parsing and encapsulating functions, whereby allowing efficient transfer of control for each routine.

Gentry discloses a system for parsing a packet for conformity with a predetermined protocol using mask and comparison values included in a parsing instruction. Gentry, in Figure 23, discloses an illustrated series of instructions for parsing layer 2, 3 and 4 headers of a packet to determine if they are Internet, IP and TCP, respectively. See column 21, lines 61-65. Further, Gentry discloses that a series or set of instructions could be generated for parsing the packets and that the next instruction applied in the parsing program depends upon whether the previous comparison was successful. Thus, the particular instructions applied by the microsequencer and the

sequence in which applied, depend upon which protocols are represented by the packet headers. See column 22 lines 29-38. Thus, Gentry discloses processing the set of instructions in a sequence, which is determined upon which protocols are represented by the packets headers.

Brown discloses a multi-cycle, no op (NOP) instruction. Brown discloses a method for controlling the execution of a micro processor to cause it to execute a NOP instruction for a programmable number of sequencer cycles. In column 4, lines 51-65, Brown discloses that an instruction dispatch unit (IDU) examines each fetch packet and parses it into packets of instructions capable of being executed in parallel, called execute packets, EP.

However, it is respectfully submitted that the cited references can not be combined to produce the subject matter recited in any of the pending claims. Specifically, as discussed above regarding Gentry, the instructions are processed in a sequence that is determined by the protocols represented by the packets headers. Thus, these instructions can not be processed in parallel, as alleged in the Office Action. Again, the applicants point out that column 22, lines 33-35 of Gentry, states “illustratively, the next instruction applied in the parsing program depends upon whether the previous comparison was successful.” This passage indicates that the instructions are processed serially and not in parallel. Thus, there is no suggestion that the instructions in Gentry can be processed in parallel. As stated above, claims 1, 7 and 21 recite that the plurality of instructions fields are processed in parallel.

Therefore, it is respectfully submitted that since there is no motivation within Gentry or Brown to combine the two references in order to disclose all of the features recited in the pending claims.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or the combined reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all of the claims limitations. The teaching or suggestion to make the claim combination and a reasonable expectation of success must both be found in the prior art and not based on applicants disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ 2d 1438 (Fed Cir. 1991).

As stated above, there is no reasonable expectation of success in combining the cited references and there is no motivation within either reference to make the cited combination except that which is provided in Applicants' disclosure. Accordingly, withdrawal of the rejection of claim 1-5, 7-11, and 13-14 under 35 U.S.C. 103(a) is respectfully requested.

The Office Action rejected claim 15 under 35 U.S.C. 103(a) as being obvious of Gentry in view of Brown and in further view of U.S. Patent No. 5,560,039 to Dulong (Dulong). This rejection is respectfully traversed.

The Office Action admits that Gentry and Brown fail to disclose the feature of instruction words based on VLIW architecture. The Office Action alleges that Dulong makes up for this deficiency.

It is respectfully submitted that Gentry and Brown are deficient at least for the reasons stated above regarding claim 7 and Dulong fails to make up for these deficiencies.

Dulong discloses an apparatus and method for a full address arithmetic unit. As discussed above, Dulong is relied upon in the Office Action to disclose instruction words based on VLIW architecture.

It is respectfully submitted that since claim 15 depends from claim 7, claim 15 is allowable at least for the same reasons as claim 7. Accordingly, withdrawal of the rejection of claim 15 under 35 U.S.C. 103(a) is respectfully requested.

The Office Action objected to claims 6 and 12 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

While applicants gratefully acknowledge the indication that claims 6 and 12 recite allowable subject matter, it is respectfully submitted that claim 6 and 12 are allowable in their present form.

Specifically, since claim 6 depends from claim 1, claim 6 is allowable at least for the same reasons as claim 1. Similarly, since claim 12 depends from claim 7, claim 12 is allowable at least for same reasons as claim 7.

Accordingly, withdrawal of the objection of claim 6 and 12 is respectfully requested.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "D.E. Brown", is written over a horizontal line.

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